

SECTION VIII

SPECIAL PROGRAM AND PLANNING CONSIDERATIONS

8.1. INTRODUCTION

A diverse range of management plans and programs are employed by the Rivers Project to effectively do the job mandated by the federal government. While many programs and planning requirements are not necessarily failing to meet plan or program objectives at this time, they all need further work to improve, accomplish and sustain them.

Successful implementation of these programs and plans will ensure efficient project operation and maintenance, improve the management of the Rivers Project service area for commercial, recreational and stewardship purposes and increase public satisfaction.

8.2. PARTNERING STRATEGIES AND BASIN-WIDE COORDINATION AND PLANNING

The operational lands and waters of the Rivers Project are situated in an inter-jurisdictional corridor and project service area crossing state and local political boundaries involving two states, twenty-seven counties and seven Congressional Districts.

Although large blocks of project lands and waters provide significant opportunity for management and protection, the ownership pattern of project fee title lands is very fragmented. This fragmentation drives the need to craft resource objectives that fit well with a broader, watershed based regional planning framework.

It is important to recognize that the overall natural resource base of the project area has been altered by human activity, but that much of the pre-project natural values persist and are ecologically important to sustaining the overall resource value of the system. Although wetland losses have been dramatic, the riparian corridor still functions as a globally important migration corridor.

From a planning perspective, regional resource management objectives have not been clearly defined, and yet a number of regional resource issues are well documented. Heavy sedimentation loads, riverbank and sheet erosion, and the presence of streambed contaminants warrant consideration of measurable efforts to improve water quality. Losses of native habitats and losses in diversity of plant and animal communities are well known and create the need to look thoughtfully for opportunities to protect existing habitats, enrich degraded habitats, and replace, where feasible, lost habitats. Relative to public use and enjoyment of these public resources minimal safe access has not yet been fully addressed. Development of recreational infrastructure in the floodplain must be approached prudently. A clear emphasis on sustaining an appropriate measure of access to unencumbered public open space is consistent with broadly held views. Adequate ramping facilities to provide dependable boat access, pedestrian access to public shorelines, and public trails and greenway development create operationally feasible recreational outputs that are both desirable and needed.

Addressing these regional resource and recreation issues will require collaboration among governmental agencies and non-governmental

organizations to effect outcomes that are logically pursued given the inter-jurisdictional nature of the project area and the mixture of private and public ownership.

Successful stewardship of project resources can only be effected as part of a larger successful programmed effort to plan for the whole corridor. Insuring that our management activities are “system compatible” and make a “value added” and relevant contribution to the overall resource needs and issues of the basin (region). This necessitates regular and thoughtful collaboration with a diverse array of basin interests and organizations. This collaboration also creates the opportunity to leverage project resources toward mission attainment through partnerships with organizations with similar goals and objectives for the resource. Within authority, this plan and future planning efforts will strive to align itself with well thought out system approaches to management of the watershed.

8.3. COOPERATIVE AGREEMENTS WITH USFWS, IDNR AND MDC

In 1934, Congress directed federal agencies, including the Corps, to allow the Bureau of Fisheries and Bureau of Biological Services opportunity “to make such uses of the impounded waters [that result from federal activity] for fish–culture stations and migratory-bird resting and nesting areas as are not inconsistent with the primary use of the waters and/or the constitutional rights of the States.”

In 1938 congress included in the general grant of authorization for Corps navigation improvement activities the requirement that the Corps give “due regard to wildlife conservation” in pursuit of its activities.

The executive orders reserving Corps lands for use as a National Wildlife Refuge described in broad strokes the relative rights over the lands by the Corps and the USFWS. Because the rights were so broadly defined, conflicts between the agencies resulted from the exercise of the rights each agency believed it had.

By the 1940s both the USFWS and the Corps recognized that a more structured arrangement between the agencies was necessary to facilitate the transfer and administration of Corps-owned lands within the Refuge.

To clarify the relation of each agency to the federally-owned lands, late in 1941 the Corps and USFWS began to plan for the cooperative use of the lands by classifying the lands and preparing a written agreement. The Corps and USFWS successfully concluded negotiations with the signing of the first cooperative agreement on 15 May 1945.

Soon after the completion of negotiations for the first cooperative agreement, calls came from within the USFWS to obtain further control of the disposition and use of Corps lands. In 1946 and again in 1948, amendments to the Fish and Wildlife Coordination Act gave impetus to the drive to renegotiate the terms of the cooperative agreements.

Negotiations for a new cooperative agreement began in 1950. The first conference between the Corps, USFWS, and the states to negotiate general plans was held in St. Louis, Missouri, on 17 and 18 October 1950. By December 1953, the General Plans had been completely executed. Signing of the Cooperative Agreement between the USFWS and the Corps was completed on 21 January 1954. Additional cooperative agreements were negotiated between the states and the USFWS. The final action taken to place all transferred lands under the authority of the 1954 Cooperative Agreement was accomplished on 19 February 1954, by the publishing of Public Land Order 936.

The 1954 Cooperative Agreement and the 1953 General Plans provided a unified system of administration over Corps lands. The new

agreements appeared to clarify the rights and responsibilities of the parties involved.

One of the objectives of the 1958 General Plan revision negotiations was to provide for a system whereby minor changes in the land categories covering transferred lands could be made without requiring the signatures of the Secretaries of the Army and Interior. Provisions made in the General Plans allowed that “minor adjustments may be made in the boundaries ... by mutual agreement” between the District Engineer, Regional Director, Biological Survey of Fish and Wildlife and the appropriate state official. The new provision was intended to facilitate proper management at the field level.

The 1961 General Plans and 1963 Cooperative Agreement further elaborated the rights and responsibilities of the Corps, USFWS and States to lands purchased by the Corps north of Cairo, Illinois along the Mississippi River. It also provided the means for making minor adjustments at the field level in the lands transferred.

In 1966 the National Wildlife Refuge System was created by Congress with the intent of controlling the disposal of lands within the Refuge System and clarifying the authority of the Secretary of the Interior over these lands. The National Wildlife Refuge System Act (NWRSA) did not explicitly include lands acquired through cooperative agreement or address whether the provisions of cooperative agreements remained valid after the passage of the NWRSA. Hence, prior to 1975, it was not clear that land acquired under cooperative agreement were within the National Refuge System.

In 1976, the NWRSA was amended by what became known as the Game Range Amendments. These amendments provided that suitable lands acquired through cooperative agreement were part of the National Wildlife Refuge System, but could be disposed of in accordance with the terms of the cooperative agreement. Thus, lands acquired through cooperative agreement, whether entered into before or after 1 January 1975, are part of the National Wildlife Refuge System under the terms for management and disposal as contained in the agreement.

Public Law 86-717 and applicable implementing regulations declare the policy of the United States that areas owned in fee and under the jurisdiction of the Secretary of the Army and the Chief of Engineers shall provide for the protection and development of forest or other vegetative cover and the establishment and maintenance of other conservation measures on areas under jurisdiction. Nothing in this agreement relieves the Corps of this responsibility. The basic Corps stewardship mission is carried out by identifying and implementing management practices, which insure the conservation, preservation, and protection of resources for present and future generations. The Corps will promote the establishment, maintenance, and protection of vegetative cover, to include forest, grasses, and other herbaceous communities in order to sustain the potential for forest production, sustain wildlife populations, and provide for basic erosion control during the life of the project. Under the Cooperative Agreement, the USFWS, on Designated Refuges, or appropriate states, on General Plans Lands will manage the resources for enhancement of fish and wildlife.

The Corps further has the responsibility and will undertake to survey, mark, and maintain the project fee title boundary. Corps natural resource management strategies are called out in the Project Master Plan and further detailed and specifically explained in the Project Operational Management Plan. The development of plans or other vegetative management activities will be fully coordinated with the Service for input and review of compatibility of proposed actions on the wildlife enhancement uses of the project. The Service will identify habitat goals and

objectives in the Refuge comprehensive Conservation Plan to provide guidance to the Corps in this partnership effort. Revenue from sale of any timber in conjunction with the Forest Cover Act program is credited to the Corps.

Proposed changes to the General Plan are included in this Master Plan. Subsequent updates to the General Plan and Cooperative Agreement will comply with ER 405-1-12 that states that Department of the Army "Licenses" are necessary to cover lands managed by state agencies for migratory birds and resident wildlife.

8.4. GENERAL ENVIRONMENTAL COMPLIANCE REQUIREMENTS

Proposed actions, operational activities and maintenance activities must comply with all applicable environmental laws and regulations. Among these are the National Environmental Policy Act (NEPA), Endangered Species Act (ESA); Fish and Wildlife Coordination Act; the National Historic Preservation Act; Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA); Section 10 of the Rivers and Harbors Act; Sections 401 and 404 of the Clean Water Act; the Clean Air Act; Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA); Resource Conservation and Recovery Act (RCRA); the various rule and regulations covering the work place as promulgated through OSHA; and the Federal Facilities Compliance Act (FFCA). This list is by no means complete, however, it does cover the main environmental laws governing Corps activities.

Many of these laws are overlapping, that is to say that by complying with one law you will be directed to other related laws. In some cases, compliance with two or more laws may take place at the same time with minimal outlay of additional time and effort. Under NEPA, for example, in the course of gathering public comment and preparing the necessary documents, it is very easy to initiate compliance activities for the Endangered Species Act and the Fish and Wildlife Coordination Act at the same time. In relation to NEPA documentation, actions directed at replacing or rehabilitating existing facilities or adding new facilities in developed areas are categorically exempt from NEPA. On the other hand, actions which will have a substantial environmental effect will require the preparation and circulation of an Environmental Assessment. Examples of these would be expansion of a recreation area, designation of a fleeting area where none existed before, and placement of new water control structures for wildlife habitat restoration.

The Corps audits its operations and work place through a process called ERGO (Environmental Review of Government Operations). This is a comprehensive internal inspection of our facilities and our management practices aimed at assuring compliance with all applicable laws and regulations. These inspections result in an ERGO Assessment report that details deficiencies found and lists actions necessary to achieve compliance. This audit is applicable not only to Corps operated and maintained facilities and lands, but also to those that are operated and maintained through outgrant (lease, license, easement, etc.). Real Estate Division will review the final report for these areas and will transmit the findings to the appropriate representative for development of a Corrective Action Plan. Those ERGO reports that pertain to Corps operated facilities and lands will be approved by the Chief of CON-OPS and forwarded to the Rivers Project Operations Manager for creation of a Corrective Action Plan. The Rivers Project Manager, through data call and subsequent to inspection, assures that the required corrective actions have been completed in a proper and timely fashion. These ERGO inspections are also performed on the lease areas and the same type of report is

given to the lessee. It is the responsibility of the lessee to take the necessary corrective actions. Again, the Rivers Project Manager assures that the proper actions have been completed. The formal ERGO inspection is performed every 5 years with an internal audit accomplished on an annual basis.

Any Corps maintenance activities performed on or near the water must comply with the same regulatory permit process as the general public or private enterprise requiring the proper Section 404 permit and Section 10 permit, if applicable, from the St. Louis District Corps of Engineers Regulatory Division. In addition, if applicable, the Corps must secure the proper Section 401 Water Quality Certification from EPA. If Corps maintenance activities involve burning, such as prescribed burning of prairies, a clean air permit must be obtained first from the appropriate county or state.

The main problems that Rivers Project facilities are facing today is the extensive past use of lead paint and asbestos insulation. As these problems are identified and verified, they are scheduled for remediation as funds permit.

8.5. ENVIRONMENTAL MANAGEMENT PROGRAM

Upper Mississippi River System Environmental Management Program

Environmental Projects and Operations, Maintenance, Repair and Rehabilitation Agreements

In WRDA 1986, (PL 99-662), Congress clearly recognized the uniqueness of the UMRS by declaring it to be “a nationally significant ecosystem and a nationally significant commercial navigation system.”

Section 1103 of the WRDA 1986 included provisions authorizing both construction of a second lock at Locks and Dam 26 and a variety of environmental initiatives designed to protect, restore and balance the resources on the Upper Mississippi River.

This provision, the Upper Mississippi River Management Act of 1986 is the statutory basis for the Environmental Management Program (EMP) and authorized its major programmatic elements (*Table 8-2*).

The original 1986 EMP authorization and subsequent amendment in 1990 and 1992 authorized the program through the year 2002. Section 509 of WRDA 1999 further reauthorized the program and extended it indefinitely with status and evaluation reports to be submitted to Congress every six years for consideration of the programs future.

This program is carried out through a partnership formed between the USFWS, the Corps, and the States of Minnesota, Wisconsin, Illinois and Missouri. Since the original designation of these partnerships, LTRM has become part of the USGS, and NRCS has been added.

All EMP habitat projects within the St. Louis District involve the MDC or IDNR and USFWS as the proponent and partner for each individual project. On each project an Operations, Maintenance, Repair and Rehabilitation Agreement is negotiated with the USFWS and the non-federal partners. Within the context of this agreement, the partner stipulates how the project will be operated and maintained and pledges resources to this end. Also covered in the agreement is the partners level of commitment to repair costs. Beyond this level, rehabilitation is initiated and this is the responsibility of the Rivers Project Office of the Corps.

Table 8-3 provides a listing of EMP habitat projects operational, under construction or planned within the St. Louis District.

Table 8 – 2
EMP Element Summary

	Element	Description	Lead Agency	Cost Sharing
1	Habitat Projects	Planning, design, construction and monitoring of projects to rehabilitate or enhance fish and wildlife habitat. Examples include side channel modifications, island creation, water level and flow control and dredging.	Corps	Construction costs are 65% federal/35% non-federal, except for projects on lands managed as a national refuge, which are 100% federal.
2a	LTRM	Standardized monitoring of water quality, fisheries, vegetation and other river resources. Related research activities in support of partner agencies' river management roles. Administered as integrated program with computerized inventory and analysis system.	USGS	100% federally funded
2b	Computerized Inventory and Analysis System	Integration, analysis, and storage of data for the LTRM element. Extensive capabilities to perform spatial and statistical analysis and to provide access to data. Administered as integrated program with long term resource monitoring.	USGS	100% federally funded
3	Recreation Projects	Authorization to construct river-based recreation projects. No funds have been allocated to construct recreation projects to date.	Corps	Construction costs are 50% federal/50% non-federal Operations and maintenance costs are 100% non-federal
4	Economic Impacts of Recreation Study	Assessment of economic impacts of recreation expenditures on the UMRS. Study completed in 1993.	Corps	No cost-share provisions
5	Traffic monitoring	Monitor traffic movements to determine need for capacity expansion of navigation system. Authority has not been used since FY 1990. Further analysis of system' capacity needs is being done under Corps' navigation feasibility study	Corps	No cost-sharing provisions

Table 8-3
Habitat Projects Operational, Under Construction or Planned Within the St. Louis District

Name	Partner	Year Complete or Scheduled for Completion
COMPLETED:		
Clarksville Refuge EMP Project	MDC	1991
Pharrs Island	MDC	1993
Dresser Island	MDC	1994
Stump Lake	IDNR	1998
Stag Island	MDC	1999
UNDER CONSTRUCTION:		
Swan and Fuller Lakes	IDNR/USFWS	2000
Cuivre Island	MDC	2000
Batchtown	IDNR	2003
Calhoun Point	IDNR	2003
PROPOSED:		
Pool 25 & 26	MDC	1999 Initiated Planning
Schenimann Chute	MDC	1999 Initiated Planning

A recent initiative established under UMRS-EMP authority is the Habitat Needs Assessment (HNA).

The Habitat Needs Assessment was officially noted in the *Report to Congress, An Evaluation of the Upper Mississippi River System, Environmental Management Program*, U.S. Army Corps of Engineers, Rock Island District, December 1997. The following quote establishes the baseline for the assessment:

"A habitat needs assessment should be completed to establish a technically sound, consensus-based management framework or 'blue print' for the restoration, protection and enhancement of the UMR ecosystem. This assessment would begin to identify, at system, pool, and reach levels, long term habitat requirements. It would also serve to refine the focus of future monitoring and research activities."

The HNA is an undertaking which helps guide the process of planning and designing habitat rehabilitation and enhancement projects (HREP). It will also serve to assist in determining the type data the LTRM should collect in the future. The HNA is not to provide all the answers for EMP project selection in the future but rather to be a tool to be utilized by EMP professionals who will make project selections in the future.

The EMP is a unique multi-partnered program dedicated to the study and restoration of the natural resources of the UMRS.

8.6. NORTH AMERICAN WATERFOWL MANAGEMENT PLAN (NAWMP)

In 1986, the United States and Canada signed the North American Waterfowl Management Plan as an outgrowth of concerns over the dramatic loss of wetlands and declines in, waterfowl populations. The NAWMP identifies habitat loss and degradation as the major factors limiting waterfowl populations in North America. To address these problems, the NAWMP is a strategic plan that presents a framework for protecting, restoring, creating, and enhancing critical waterfowl habitat in the United States and Canada. The overall goal of the NAWMP is to restore continental waterfowl populations the levels that existed in the 1970s. This goal is to be achieved primarily through the strategies of protections, restoration, and enhancement of wetlands and their associated habitats throughout the United States and Canada.

The North American Waterfowl Management Plan recognizes that a diversity of other wetland-dependent wildlife species will also benefit from implementation of the plan. In addition significant wetland values, including water quality, ground-water recharge, flood control, and recreational opportunities, will be realized. Under the plan, broad strategies are outlined to reverse the widespread destruction of wetland habitats and waterfowl species are utilized as key indicators of the health of wetland environments.

The recommended strategy for implementation of the plan is to formulate a partnership within a joint venture area. This partnership is to be made up of representatives from governments, private organizations and individuals who are to cooperate in the planning, funding, and implementation of projects to conserve and enhance wetland habitat within their joint venture area. The St. Louis District is a member of the Partners for Wetlands group within the Upper Mississippi River and Great Lakes Region Joint Venture Area. To date, one habitat project has been completed at Reds Landing in Pool 25, and several others are being proposed or planned including the Big Bend Road Rest Area (Horseshoe Lake, Illinois) and the American Bottoms Restoration and Protection Project along Pool 27. Meetings of this group are regularly scheduled in

order to explore new opportunities, update on going proposals, and to evaluate the performance of completed projects.

8.7. SHORELINE MANAGEMENT PLAN

It is the policy of the Chief of Engineers to protect and manage shorelines of all Civil Works water resource development projects under Corps jurisdiction in the manner which will promote the safe and healthful use of these shorelines by the public. This policy also includes maintaining environmental safeguards to ensure a quality resource for use by the public. The objectives of all management actions will be to achieve a balance between permitted private uses and resource protection for general public use. Public pedestrian access to these shorelines shall be preserved. For projects or portions of projects where federal real estate interest is limited to easement title only, management actions will be appropriate within the limits of the estate acquired.

Section 7.2 provides a brief overview of the Corps Shoreline Management Policy and the requirements for a shoreline management plan at all Corps projects where private exclusive use and alterations to shoreline areas exist on federally owned lands and water.

Types of shoreline related uses that are regulated include: recreational cottages and docks and mooring sites, boat ramps, concessioned marinas and harbors, other recreational shoreline developments, hunting blinds, mowing and vegetation alterations, ferry landings, industrial development and fleeting-mooring of commercial navigation tows and barges.

The majority of the shoreline areas on the Navigation Pools are in private ownership. There are numerous competing and conflicting shoreline uses associated with these privately owned shoreline areas. Due to the importance of the rivers for recreation, commercial navigation, water supply, industrial ports and facilities and fish and wildlife habitats, there has been and will continue to be demand for shoreline uses. Given the limited amount of federally owned shoreline areas managed by the Corps, care will be taken to safeguard remaining underdeveloped public open space.

As stated in Section 7.2 a comprehensive Shoreline Management Plan has not been prepared yet for the Rivers Project. An interim policy was developed and approved by the District Engineer in 1990. The interim policy is being used to guide project management until a detailed plan can be formulated and approved. This policy is documented in Section 7.2.

The Shoreline Management Plan for the Rivers Project will be developed as part of the Rivers Project Operational Management Plans. This process will not be initiated until after completion and approval of the Rivers Project Master Plan.

From 1983 to 1985, a shoreline fleeting study was conducted in an effort to identify private commercial navigation fleeting zones on the Mississippi River portion of Pool 26 only. The public was involved in formulating this fleeting plan. A final plan was submitted to Lower Mississippi Valley Division (LMVD) in 1985 for approval. However, this plan was never formally approved. This fleeting data will be reviewed as a part of the effort to arrive at a comprehensive Shoreline Management Plan for public shorelines administered by the Corps.

The scope and format of the Shoreline Management Plan will consist of a map showing the shoreline, associated uses, related rules and regulations, a discussion of what areas, if any, are available for restricted development or closed to specific activities and facilities, how to apply for

permits and other information pertinent to the Corps management of the shoreline. The plan will be prepared in sufficient detail to ensure that it is clear to the public what uses will or will not be allowed on the shoreline of the project and why. A process will be developed and presented in the Shoreline Management Plan that prescribes a procedure for review of activities requested but not specifically addressed by the Shoreline Management Plan. Extensive public involvement will be required to develop the plan.

Shoreline Allocation Classifications required by regulation that could be potentially designated on public owned shoreline areas include:

Limited Development Areas

Limited Development areas are the areas in which private facilities and/or activities may be considered and permitted.

Public Recreation Areas

Public recreation areas are those areas designated for commercial concessionaire facilities, federal, state or other similar public use.

Protected Shoreline Areas

Protected shoreline areas are those areas designated to maintain or restore aesthetic, fish and wildlife, cultural or other environmental values.

Prohibited Access Areas

Prohibited access areas are those in which public access is not allowed or is restricted for health, safety or security reasons.

All shoreline use allocations are to compliment, not contradict, the Project Master Plan.

Currently approval authority for the Shoreline Management Plan rests with the Mississippi Valley Division Commander.

8.8. HISTORIC PROPERTIES MANAGEMENT PLAN

Policy directing the protection and management of project cultural resources is contained in ER 1130-2-540. Guidance for the management of collecting, preserving and curating project archeological and historical materials and establishment of a Historic Preservation Program for construction, operations and maintenance activities is contained in EP 1130-2-540. There are also numerous laws that mandate the protection of cultural resources (See 4.01 and 1.03.a.(5)).

Artifacts and site materials are the tangible cultural resource base of an area, and are significant to public use development in two major ways. First, the Corps is explicitly responsible for the protection, preservation and enhancement of cultural resources located within the project jurisdictional and impact area. Second, cultural resources are a resource with development potential. Attending to the first responsibility is often the first step toward realizing the development potential of the project cultural resource base.

Prior to any project public use development, cultural resource investigation, including review of documents, sites surveys and test excavations are completed to locate the resources and to assess their significance to present and future generations. These cultural materials can be evaluated for their suitability for incorporation into interpretive facilities such as self-guided trails, educational displays, and reconstructed buildings and sites.

The abundance and diversity of cultural materials, and the fact that some may be appropriately developed while others must be preserved and

protected, are considerations which are addressed in a Historic Properties Management Plan (HPMP). This plan also includes both short and long-term policies and procedures needed to accomplish the objectives of preservation and enhancement of the resources. Within the region there are prehistoric and historic materials which have the potential to contribute to our understanding of regional and local cultural history.

Policies and Actions.

Some general policies emphasized in the HPMP include:

- Encourage open space land use in order to protect significant archeological resources.
- Provide adequate identification, evaluation, and site planning to preserve these resources.
- Preserve historic structures and cultural landscapes in their present condition if that condition allows for satisfactory protection, maintenance, use and interpretation.

In order to comply with applicable laws and regulations, a comprehensive inventory of potential properties eligible for the inclusion in the *National Register of Historic Places* as well as a complete inventory of all project historic resources is needed to provide an adequate database for future resource management. A complete inventory of project and corridor archeological sites is a priority. Other studies needed include an archeological overview and assessment, ethnographic overview and assessment, a scope of collection statement and a historic resource study. The purpose of these documents is to provide a complete inventory of project historic resources and facilitate the development of sound project management guidance in the approved HPMP.

Native American Graves Protection and Repatriation Act

In 1990, the Native American Graves Protection and Repatriation Act (NAGPRA) was signed into law (PL101-601) and became the most sweeping law regarding the treatment and disposition of Native American human remains and certain kinds of artifacts. NAGPRA acknowledges the right of Native Americans to claim certain types of artifacts if Native Americans (individuals or group) can demonstrate direct lineal descendancy or cultural affiliation with the material in question. This legislation addresses both ethnographic and archaeological materials and includes human remains, funerary objects, objects of cultural patrimony, and sacred objects. The law builds on previous legislation such as the National Historic Preservation Act, as amended, and the Archaeological Resources Protection Act, as amended, and seeks to create a more comprehensive dialogue between Native American and those agencies/institutions that (1) hold or control the materials outlined above and (2) receive federal funding. These institutions, including the Corps, which were required to complete a Summary by November 1993, and an Inventory by November 1995, of all collections that may contain the specific cultural remains and items mentioned above. Written Summaries and Inventories have been provided to all relevant Native American groups (e.g., tribes who lived at any time in the state from which a burial or object was obtained) or lineal descendants. Additionally, NAGPRA provides procedures for the intentional excavation and inadvertent discovery of Native American human remains and funerary objects subsequent to 1990.

The Corps is responsible for the management of archaeological and historic resources that are removed from Corps managed federal properties or affected by Corps actions. As mandated by NAGPRA the Corps is

required to ensure that human remains, as well as funerary objects, sacred objects, and objects of cultural patrimony, are inventoried or described. Consultation with potential cultural affiliated Native American tribes also is required under NAGPRA and is considered a priority in the St. Louis District. The St. Louis District is now completing all inventories required for collections generated prior to 1990. Additionally, the St. Louis District has prepared guidelines for handling human remains removed or disturbed during intentional excavations or inadvertent discoveries.

8.9. PROJECT BOUNDARY RESURVEY PLAN

Project boundary monumentation and a clear, positive delineation of boundary lines on the ground is essential to protect the integrity and resources of the project. Corps surveyors during project acquisition completed the original project boundary surveys. A compliance evaluation of the project boundary in the late 1980s found much of the original project boundary monumentation was unidentifiable or indefensible and a boundary resurvey was initiated in 1991.

By 2005, all project land boundaries are scheduled to be resurveyed, monumented and approved by the U. S. Department of Interior, Bureau of Land Management (BLM). Through surveying, most of the original boundary has been recovered and re-monumented. All boundary lines are surveyed and monumented in accordance with BLM and Corps standards.

After each segment of the re-surveyed boundary line is approved, these boundary lines are immediately delineated with posts and signs, and trespass and encroachments are recorded and resolved. Maintenance of project boundary lines includes surveillance, and replacement and repair of monuments, posts and signs. Resolution of existing and future trespass and encroachment will continue in accordance with operational management plans and ER 405-1-12.

Riparian boundary surveys due to accretions, relictions, or eruptions of riparian lands effecting project ownership will be prioritized and accomplished after priority land surveys are completed.

Project lands and riparian boundaries indicated on the mapping plates of this Master Plan do not necessarily represent legal surveyed boundaries, but rather show general ownership boundaries using the most accurate geospatial data available at the time. Legal project boundary information is available at the Rivers Project office.

8.10. INTERPRETIVE SERVICES AND OUTREACH PROGRAM

Corps and Interpretive Services and Outreach

The Corps is chartered to manage public lands under its jurisdiction and is mandated by ER 1130-2-550, Recreation Operations and Maintenance Policies and Guidelines, to develop an Interpretive Services and Outreach Program (ISOP) at each project it operates. The overall goal is to increase environmental awareness and improve math and science literacy. The ISOP includes public relations, marketing, publications, tourism, environmental education, and visitor center management.

The Corps defines interpretive services as communication and education processes provided to internal and external audiences, which support the accomplishment of Corps missions, tell the Corps story, and reveal the meanings of, and relationships between, natural, cultural, and created environments and their features. Freeman Tilden, who is known as the “Father of Interpretation”, defines interpretation as an educational activity which aims to reveal meanings and relationships through the use of

original objects, by firsthand experience, and by illustrative media, rather than simply to communicate factual information.

The Corps defines outreach activities as communication efforts involving interpretive programs that reach diverse populations such as students, teachers, organized groups such as Girl Scouts, Boy Scouts, 4-H and the general public beyond the physical boundaries of Corps projects and facilities.

The National Environmental Policy Act encourages federal agencies to “enrich the understanding of the ecological systems and natural resources important to the Nation.” By virtue of the land and water resources under its administration, the Corps has a responsibility to take an active part in the process of creating a more knowledgeable public and educating the next generation about environmental matters. This is central to sustaining project resources particularly where visitor use levels are significant and present a challenge to resource protection.

The Corps recognizes that the ISOP is an important tool to achieve success in fulfilling the Corps stewardship missions. The value of outreach is to not only obtain the public’s understanding of the resources managed, but to incorporate Corps customers as partners in managing resources. Community outreach provides environmental education to foster voluntary stewardship of natural, cultural, and created resources. It is a tool to encourage students to pursue careers in mathematics and science. A relevant interpretive services and outreach program can enhance the visitor’s experience and enjoyment by anticipating their needs and providing interpretive resources to meet those needs. The Corps’ interpretive services and outreach program can empower the public with facts.

Other important attributes of the ISOP include achieving management objectives using interpretive techniques, communicating the Corps’ Civil Works and Military missions and accomplishments to the public, decreasing visitor and team member injuries and enhancing the experience and enjoyment of visitors to Corps projects. A secondary attribute of the ISOP is the delivery of a message in a manner that educates and stimulates to achieve math and science literacy.

Rivers Project Interpretive Services & Outreach Program Overview:

The Rivers Project ISOP strives to achieve the goals outlined in ER 1130-2-550, conducting these efforts in an efficient and effective manner at the field level so as to enhance understanding of both the Corps and the public’s roles and responsibilities. The Rivers Project implements a comprehensive Interpretive Services and Outreach Program.

Goals and Objectives

The overall goal of the Rivers Project ISOP is to enhance the visitors understanding and appreciation of public lands and waters, instilling visitors with a sense of proprietorship and promoting environmental stewardship in order to preserve the natural and cultural resources of the region for future generations.

Goals

- Forge innovative partnerships throughout the region which provide new opportunities to cooperate with others to provide improved customer service and operational efficiency.
- Use ISOP programming to achieve success in fulfilling a stewardship mission.

- Use the ISOP to create 21st Century classrooms, using Corps facilities and civil works projects and programs, linking students with real life learning experiences in the fields of science and technology.
- Create a proactive and dynamic public affairs program serving the entire Rivers Project.
- Enhance the public's understanding of the Corps' mission for water resource development.
- Develop public appreciation for project resources.
- Aid project personnel in accomplishing management objectives.
- Reduce overall project operations and maintenance costs.

Interpretive Objectives

Visitors should be able to:

- Articulate what the river means to them.
- Identify at least one way the river directly affects their life.
- Identify at least two major river issues and how those issues affect river sustainability.
- Explain how a system of locks and dams functions.
- Identify predominant navigation features encountered along the river.
- Name at least two commodities commonly transported through the locks and dam.
- Identify the Corps' role in water resource management.
- Use the abundance of information that the Corps develops to provide relevant curriculum for schools.

Additionally, visitors to the locks and dam will be exposed to the following and should be able to display some understanding of:

- Native life and dependence on the prehistoric river
- Historic uses of the river
- Contemporary uses of the river
- Developing sustainability in the Mississippi watershed
- Other agencies involved on the river
- Ecology of large river systems
- Life forms and life zones
- River as a migration corridor
- River art and literature

Visitor Services Objectives

The development of visitor services for information and recreation purposes should facilitate a safe, expedient, and enjoyable experience in relation to the project resources and the river. To achieve this end, visitor services should:

- Provide necessary directional information to enable visitors to easily find the project facilities

- Provide visitors adequate information to correctly anticipate the magnitude and nature of the experience
- Provide clear directions throughout the project area to minimize the need for direction giving by site personnel
- Provide suitable and adequate resting areas for visitors walking to and from observation areas
- Provide facilities that will enhance the visitor's experience such as picnic areas and observation areas
- Provide the stimulus for cooperation with local communities to develop strong linkages between them and the Corps,
- Encourage partnerships and sponsorships that will promote the interpretation of river values and a sense of proprietorship by local communities
- Assist visitors with an understanding of other tourism facilities and attractions in the area
- Provide a setting for schools to safely utilize project lands and facilities for environmental education

Themes

■ Natural History of the River

- The Mississippi River watershed and how it functions
- The river's formation
- The river's name
- Physical characteristics of the river
- Geography of the river and its tributaries
- The ecology and natural history of the river
- Natural/geological/hydrological features
- A comparison of then and now
- Life zones and life forms
- Ten major rivers of the world

■ Cultural History of the River

- Aboriginal life on the river
- Early exploration of the river basin
- Boatmen of the fur trade and settlement eras
- Legends and lore of early river travel and trade
- Steamboat life
- Women on the river
- Life on today's river
- Commerce on the river
- Life in the floodplain
- Sustainable development
- Recreation on the river

■ How the River Works

- Operation of locks and dams

- Maintenance of navigation channels
- Channel navigation
- Equipment on the waterway - the evolution of low-water navigation
- Prehistoric river use
- Historical river use
- Today's river use
- Construction of Melvin Price Locks and Dam
- Legislation and Authorization
- Nine-foot navigation project and opening the waterway
- Recreation on upper river pools
- Water safety
- Flood pulsing, flood control, and levee process

■ **Sustaining the System - Functions and Values in Balance**

- Resource management on the Mississippi and sustainability
- Working within natural constraints of the system
- Life along the river
- People working to clean up the river
- Getting connected with the river - developing personal values

■ **Namesake and the Corps of Engineers**

- Melvin Price
- Corps history and mission
- The St. Louis District

Melvin Price Locks and Dam and the National Great Rivers Museum, Regional Visitor Center at Melvin Price Locks and Dam

■ **Melvin Price Locks and Dam**

The Melvin Price Locks and Dam is located on the Upper Mississippi River at RM 200.78, near Alton, Illinois. Visitor facilities include a Regional Visitor Center (National Great Rivers Museum) and a 38-acre park. The 38-acre park (Illinois Esplanade) includes a pavilion, picnic area, and public restrooms. Currently tours of Melvin Price Locks and Dam are conducted year-round, weather permitting. Unescorted visitation has been approved and will be effective once the visitor access facilities are completed and the regional visitor center is operational.

■ **National Great Rivers Museum, Regional Visitor Center at Melvin Price Locks and Dam**

The National Great Rivers Museum, Regional Visitor Center at Melvin Price Locks and Dam, will be an important new educational resource for the Midwest. The Regional Visitor Center will be unique in its primary focus on the Mississippi River and will provide the opportunity to teach the public to respect this invaluable natural resource and help sustain it in the future. Serving as a destination point, the Regional Visitor Center will stimulate local economy, generating tourism, and providing educational and recreational opportunities to hundreds of thousands of visitors each year.

When the National Great Rivers Museum, Regional Visitor Center at Melvin Price Locks and Dam, opens, it will represent a major tourism

attraction for the Midwest. Visitation to the regional visitor center is anticipated to be 250,000 per year initially and is expected to be balanced among school groups, the local community, and tourists. Visitation to the site is a reflection of the magnitude of the project, its location on the Great River Road (now a designated National Scenic Byway), its position in the middle of the Mississippi River, and its location in or proximity to the Greater St. Louis Metropolitan region. The Regional Visitor Center at Melvin Price Locks and Dam is the only facility in the area and the only one of three existing facilities in the nation to concentrate on the Mississippi River.

The Meeting of the Rivers Foundation suggested the naming of the Regional Visitor Center at Melvin Price Locks and Dam. The title, National Great Rivers Museum, was subsequently approved at the District and Division levels. The name ties back to the designation of the Meeting of the Rivers Scenic Byway, a 50-mile stretch of the Great River Road, anchored at the National Great Rivers Museum, passing the confluence of the Mississippi and Illinois Rivers, and on to Kampsville, Illinois.

Authorization and Development

On 21 October 1978, PL 95-502 authorized the Melvin Price Project, substantially in accordance with the recommendation of the Chief of Engineers in his report dated 31 July 1976. In the report, the Chief of Engineers recommended that the project include "...a major visitor center..." thus committing through legislation, construction of a visitor center as part of the project. Congress authorized in the Water Resource Development Act of 1992, a Regional Visitor Center of at least 24,000 square-feet, to be constructed at the Melvin Price Locks and Dam. The justification materials submitted in support of the Fiscal Year 1995 Civil Works budget of the US Army Corps of Engineers stated that the Corps would initiate construction of a 6,000 square-foot visitor center. A letter from Dr. John Zirschky, Acting Assistant Secretary of the Army (for Civil Works) to the Honorable J. Bennett Johnson, Chair of the Subcommittee on Energy and Water Development changed the scope for the visitor center from 6,000 square-feet to 12,000 square-feet. Funds for the construction were appropriated in 1995 and construction began of the Regional Visitor Center at Melvin Price Locks and Dam in April 1997.

A citizens advisory committee was formed to assist the architectural and interpretive development of the Regional Visitor Center at Melvin Price Locks and Dam. A peer review group of museum directors were brought together to guide the Corps and the community in the design of the regional visitor center. The community challenged the Corps to build a facility comparable to those in the St. Louis museum market. A feasibility study was conducted to evaluate the potential for raising public and private donations to fund the exhibits. A capital development goal of \$5.3 million was determined through the feasibility study.

Partnership Development at the National Great Rivers Museum, Regional Visitor Center at Melvin Price Locks and Dam

The inter-jurisdictional nature of the river, along with existing partnership, lends itself to opportunities for developing partnerships specific to the National Great Rivers Museum, Regional Visitor Center at Melvin Price Locks and Dam. A Challenge Cost-Share Agreement was signed with the Meeting of the Rivers Foundation to raise \$3.2 million for the design, fabrication, installations, and endowment for the exhibits. Once complete, the exhibits should be re-evaluated for relevance annually and upgraded on a five-year basis.

Federal and state partners have been approached to participate in the Regional Visitor Center at Melvin Price Locks and Dam. Agreements

have been developed with the USFWS, USGS, and the EPA. Through a grant for Southern Illinois Higher Education Consortium and in partnership with Lewis and Clark Community College, a Distance Learning/Video-Conferencing Center has been developed.

Operational Plan for the National Great Rivers Museum, Regional Visitor Center at Melvin Price Locks and Dam

The National Great Rivers Museum, Regional Visitor Center at Melvin Price Locks and Dam, will serve as the primary visitor contact point for the project. The regional visitor center is located adjacent to the Melvin Price Locks and Dam and sits on a 38-acre park adjacent to the Mississippi River. It includes an information desk, ADA compliant restrooms, telephones, drinking fountains, multi-purpose room, main exhibit hall, theater, and museum shop. Hours of operation will be daily, 9:00 a.m. to 5:00 p.m. Labor Day to Memorial Day, and daily 8:00 a.m. to 8:00 p.m. Memorial Day to Labor Day.

Storyline for the National Great Rivers Museum, Regional Visitor Center at Melvin Price Locks and Dam

Millions of visitors each year travel to the Mississippi River to recreate and learn about its history and impact on our nation. With the Mississippi River and Melvin Price Locks and Dam providing the framework, the National Great Rivers Museum, Regional Visitor Center at Melvin Price Locks and Dam, will provide a unique opportunity to tell the river's story in a comprehensive, meaningful, and relevant way. The regional visitor center will be dedicated to telling the story of the Mississippi River, its history, culture, ecology, socio-economic significance and evolving role as a transportation corridor. Through a series of exhibits and presentations the following themes will be examined:

- The significance of the Mississippi River for a global perspective as one of the ten great watersheds of the world.
- The natural forces that create and shape large rivers, including geologic development, and plant and animal life.
- Human interaction with the river, including early aboriginals, explorers and fur traders, settlement of the west, and the development of farming and water-borne commerce.
- The cultural legacy of the river and how it has inspired artist, writers, and musicians.
- The continuing influence of the river on our lives, including the impact of historic and recent floods, and contemporary efforts to sustain this great national treasure.

In addition to the exhibitions, the National Great Rivers Museum, Regional Visitor Center at Melvin Price Locks and Dam, will also:

- Serve as the center of a campus of living laboratories where visitors, teachers, and students will have the opportunity to explore and learn in a classroom where real world applications of engineering and technology are clearly explained and interactive curricula provide exciting ways to learn about math and science.
- Provide a center for Distance Learning utilizing technologies such as the internet and video-conferencing to offer educational opportunities to students and the public at other locations, as well as providing educational opportunities for local schools, enhancing the visitors experience, and expanding employee training opportunities.
- Provide a theater where visitors will be able to experience the river through innovative audio visual techniques.

- Provide a gallery for rotating or traveling exhibits and relevant topics.
- House a research institute which will facilitate discussions between state and local agencies and private industry on topical issues relevant to the river, and house a library of related materials.
- Offer new recreational activities through 38-acres of open space and a connecting bike trail.

■ **The Distance Learning Classroom at the National Great Rivers Museum, Regional Visitor Center at Melvin Price Locks and Dam**

Physically, the distance-learning classroom is located within the multi-purpose room of the National Great Rivers Museum, Regional Visitor Center at Melvin Price Locks and Dam. Equipped with high-end video-conferencing equipment, the classroom can connect with virtually any video-conferencing room in the world, providing broadcast quality audio-visual interaction. Some of the equipment included in the distance-learning classroom includes, a document camera, VCR, computer, facsimile, participant and presenter cameras. There also exists the possibility to expand with a remote camera system.

Video-conferencing capabilities are provided for the Distance Learning Classroom, through a partnership and Challenge Cost-Share Agreement with Lewis and Clark Community College and Southern Illinois Higher Education Consortium. Discussion of a distance learning partnership with Lewis and Clark Community College began in the early 1990s, and in July 1998, a Challenge Cost-Share Agreement for \$100,000 worth of equipment and in-kind services was approved and implemented.

The Distance-Learning Classroom at the regional visitor center marks a great milestone, and the first of its kind to be established outside of formal education institutes by South Illinois Higher Education Consortium. Greatly enhancing program capabilities, the distance-learning classroom answers the call for more non-traditional education experience and the need to open the doors of federal agencies and facilities. While many Corps offices have video-conferencing capabilities, this marks the first video-conferencing/distance learning classroom to be installed at a Corps field office for the primary purpose of education.

Distance learning will enhance outreach programs by connecting people with resources. Planning and developing programming for distance learning is on going. Collaboration with partners is essential. Some of examples of existing distance learning collaborations include, Cooperating School Districts (a collaborative effort to share technology and resources with Missouri K-12 schools), St. Louis EdNet (a consortium of higher education institutes, K-12 schools, educational television providers, cultural institutes and government agencies, which are enabling the expansion of exciting educational opportunities by bringing the classroom to the student), Edwardsville School District, Southern Illinois University at Edwardsville, Rockwood School District and Jersey County Community School District.

To further enhance the education experience and diminish the traditional classroom walls, there are plans for the addition of a remote camera system to the distance learning equipment. By incorporating a remote camera system, programming will be greatly enhanced, creating a real-time, virtual experience of being at a remote site without leaving the classroom. With a push of a button the classroom can be instantly carried away to the Environmental Demonstration Area to see live footage of the wetlands and prairie restoration area, or to Ellis Bay Wildlife Refuge to view the rare trumpeter swan or the majestic American bald eagles.

The distance-learning classroom is part of the Distance Learning Center, which strives on breaking down the barriers of the physical classroom and provide quality educational experiences between the learner and the resource. As part of the Distance Learning Center, there are plans for computer-based learning stations, which will be equipped with access to research databases, libraries, and the Internet. The visitor's experience can be enhanced with interactive multi-media courseware with education modules and wetlands, hydrology of large river systems, and migratory birds of the Mississippi Valley.

The Distance Learning Center with video-conferencing capabilities will also afford other education opportunities such as professional development training for educators and water resource professionals. The Corps and other agencies, organized groups and the general public can also benefit from video-conferencing for meetings and training which otherwise would be avoided or limited due to time constraints and travel costs.

Cooperating Associations for National Great Rivers Museum, Regional Visitor Center at Melvin Price Locks and Dam

A cooperative agreement was established between the Riverlands Area Office and the Riverlands Association in 1991, one of the first cooperating associations within the Corps. The Riverlands Association terminated their agreement with the Corps after five years, at the time of its renewal. A new cooperative agreement has been established between the Rivers Project and Meeting of the Rivers Foundation. This agreement is to support visitor services throughout the project area, and in particular to the National Great Rivers Museum, Regional Visitor Center at Melvin Price Locks and Dam.

Rivers Project and the Meeting of the Rivers Foundation mutually recognize the nationally significant benefits of a comprehensive interpretive program on the river for the perpetuation of national pride and preservation of river heritage. The foundation has as its primary purpose to support and benefit the acquisition, maintenance, and replacement of exhibits at the National Great Rivers Museum, Regional Visitor Center at Melvin Price Locks and Dam. Through a cooperative agreement, the foundation also intends to assist the Corps in its presentation to the public of the natural, cultural, historical, economic, environmental, recreational, and constructed features of the Rivers Project area through programs, exhibits and materials. As part of its charitable, educational, and auxiliary general purposes, the association intends to assist the Corps in natural resource management programs, activities, and interpretive functions to benefit and educate the general public.

The Meeting of the Rivers Foundation, through a cooperative agreement, will also accomplish the following:

- Provide educational and interpretive services that support the mission of the Corps and/or the project. This includes assisting, planning, designing, implementing and conducting interpretive and educational programs, activities and exhibits.
- Produce and make available to visitors by sale or free distribution, suitable interpretive and educational literature and aids to increase the visitors understanding and appreciation for the natural history, cultural, historical and constructed features of the Rivers Project area and the Corps of Engineers.
- Acquire specimens and/or objects pertaining to the history, cultures, environment or recreational activities of the Rivers Project area for the purpose of adding them to the exhibits or programs at the

National Great Rivers Museum, Regional Visitor Center at Melvin Price Locks and Dam.

- Assist in the development and improvement of interpretive devices, and educational materials including signs, exhibits, materials, and audio-visual aids.
- Assist in sponsorship and coordination of professional workshops, training opportunities and special events.
- Assist in all practical ways the interpretive, educational and community programs of the Corps and the Rivers Project area for the benefit of the American people.

Rivers Project Visitor Information Center and Access and Tour Control Facility

The Rivers Project Visitor Information Center is considered a Class C Visitor Information Center, and includes ADA compliant public restrooms, information desk, drinking fountain, and open space. This facility is located within the Rivers Project Office Administrative Building and serves as the prime visitor contact point for those visitors to the Rivers Project Office in West Alton. It is open daily from 8:00 a.m. to 4:00 p.m. year-round.

The Access and Tour Control Facility (ATCF) Environmental Learning Facility was originally authorized by letter report in 1992 and then re-approved in Supplement No. 4, Design Memorandum No. 3. The facility is located adjacent to the Rivers Project Office Administration building. The facility consists of a one-room building and adjacent perimeter and connecting sidewalks to the Rivers Project Office parking lot. The facility is used primarily to conduct interpretive and educational programs. No formal exhibits are located in the facility due to minimal available space. The facility is not adequately climate controlled and not large enough to accommodate large school groups or bus tours.

Public partners encourage the Corps to expand the Class C Visitor Information Center to incorporate the ATCF into the Rivers Project Office Administration Building. The Class C Visitor Information Center is over-utilized in its current capacity. The conference room of the Rivers Project Office Administration Building is currently being used as visitation space. Visitation trends are consistently increasing for the Rivers Project, along with tourism increases to the entire region. Funding will be requested to upgrade the Class C Visitor Information Center.

John Madson Memorial Library at Rivers Project Office

The John Madson Memorial Library, located in the Rivers Project Office Administrative Building, is an excellent resource for environmental learning. The library is dedicated to John Madson, a local nature writer. Madson wrote many books and magazine articles, including published work in Smithsonian, Audubon, and National Geographic magazines. As part of the library's collection, it contains books and reference materials donated to the Rivers Project by John Madson's wife, Dycie Madson. Also, educators can take advantage of the many publications on wetlands, nature guides, and habitats, along with engineering and navigation publications. A herbarium is available to give a hand-on look at the plants from the Environmental Demonstration Area, including prairie grasses and forbs, and endangered species. Video resources on habitat, wetlands, migratory birds, eagles and more, are available for viewing on-site or can be checked out from the library for classroom presentations.

Riverlands Environmental Demonstration Area

The Riverlands Environmental Demonstration Area (EDA) is a native prairie and marsh restoration project, located on the Missouri shore adjacent to the Melvin Price Locks and Dam, along Riverlands Way in West Alton, Missouri. The prairie provides a cost-effective “biological” method of controlling weeds that are not native to this area and provides habitat for wildlife and plant populations. Long-term management goals include nesting and protection of habitat. Environmentally, the EDA exemplifies a balanced management approach between sustaining the river as a nationally significant transportation corridor and recognizing the environmental attributes of the area. The project utilizes the rivers continuing influence through water control management to create a bottomland wet prairie and marsh, akin to that which existed prior to settlement of the area.

The educational programming conducted in the EDA allows for hands-on learning activities, focusing on wetland and prairie habitats and wildlife management. Nature trails provide the public with the chance for a closer look at the natural landscape of bottomland prairie and wetlands within an urban environment. The EDA offers visitors the opportunity to view large numbers of resident and migratory waterfowl and shorebirds, as well as other wildlife that live in the wetlands.

■ Floyd Wade Memorial Visitor Center at Locks 27

The Floyd Wade Visitor Center is a Class C Visitor Information Center, located at Locks 27 in Granite City, Illinois. The facility is universally accessible but does not include restroom facilities. The visitor overlook located adjacent to the facility is not ADA compliant. The visitor center provides the opportunity to show how the lock operates and explain the concept of the Nine-Foot Navigation Project. The visitor center offers the opportunity to tie together the interpretive information presented at various locations along the Chain of Rocks Canal.

■ Kaskaskia Lock and Dam Class C Visitor Information Center

A Class C Visitor Information Center is located at Kaskaskia Lock and Dam, where information on the project and brochures are dispersed. This facility is not staffed, and tours of the Lock and Dam are conducted on an impromptu basis depending on the personnel on duty and the opportunity to make time available within their normal duties to interact with the visiting public. The approved OMP for this facility includes an evaluation of the design and placement of displays with a staged refurbishment to be completed by FY02. Developing a Cooperating Association will also be evaluated.

■ Lock & Dam 24

Lock and Dam 24 is located on the Upper Mississippi River at RM 273.4, adjacent to Clarksville, Missouri. In the past, tours have been conducted at this facility on weekends and holidays from Memorial Day thru Labor Day. Group tours have been made available by reservation through the Rivers Project ISOP. Visitor facilities include an overlook, which is not universally accessible.

■ Lock & Dam 25

Lock and Dam 25 is located on the Upper Mississippi River at RM 241.4, adjacent to Winfield, Missouri. In the past, tours have been conducted at this facility on weekends and holidays from Memorial Day thru Labor Day. Group tours have been made available by reservation through the Rivers Project ISOP. Visitor facilities include parking, picnic area, public restrooms, walking trail and Watchable wildlife viewing platform (provided by the Nature Conservancy) and a lock chamber visitor overlook.

Educational Resources and Curriculum Development

The Rivers Project, working in collaboration with the educational institutions participates in the development and presentation of in context hands-on curriculum that expose students and teachers to real life applications of science and technology employed in its day to day mission activities. These programs provide much needed opportunities to expose area students to new collateral learning experiences in the sciences and to insure equitable education opportunities and high levels of educational achievement for all students. The Rivers Project, through its ISOP, has built a reputation with regional, school administrators as an organization interested in the future of the children in the communities in the project region. Rivers Project is a natural to formulate a well structured, and measurable education outreach program.

Educational objectives include:

- Present programs designed to augment public school education in mathematics and the natural and physical sciences.
- Develop curriculum materials for all grade levels to support in-class presentations by water resource professionals that examine the relevance of science, math, and technology to the real world around them and to lay the foundation for careers in science and technology.
- Develop curriculum that supports the development of team skills and critical and creative thinking skills.
- Collaborate with other governmental agencies and professional associations/societies on outreach projects involving common goals and objectives. Co-produce instructional materials.
- Develop a compendium of resources available to support outreach efforts keyed to local or geographical areas, e.g., local science centers, museums, libraries, resource people, books, films, activity kits, etc.

The Rivers Project Office through its ISOP, has and continues to develop networks, form alliances and enter into partnerships with the purpose of working together to educate students, teachers and private citizens on the importance of promoting responsible and progressive stewardship of public lands and waters.

The result is a living science laboratory that excites and motivates people of all ages to better understand and take responsibility for the environment. The Rivers Project has identified numerous opportunities for community involvement and partnership education.

The Academic Resource Council for Riverlands Education (ACRE) was established to assist the River Projects in establishing formal relationships with the academic and scientific communities. ACRE members include leaders from local, regional and national sectors of education, science, business and government fields. These members assist in the early development of educational programming and services offered by the Riverlands Area Office.

A unique partnership with St. Louis City and County School Districts is the St. Louis School Partnership Program, which integrates culturally diverse city and county students to experience together the various cultural, historical, and natural education opportunities that exist in the St. Louis region, outside the formal classroom. Funded through provisions of the St. Louis Desegregation Plan, the program exposes teachers and students to the "learning content" of cultural institutions including the St. Louis Zoo, the Art Museum, the Missouri Botanical Garden, Cahokia

Mounds and the Corps' Rivers Project Area. The program also gives the Corps the opportunity to reach urban minority children already interested in science and promote their awareness of career opportunities within the Corps. Corps participation is anchored by three curriculum packages entitled, *What is a Wetland*, *River Engineering: Locks and Dam*, and *Zebra Mussels: The Alien Invader*. The curriculum packages developed for School Partnership have come at the request of educators to provide relevant learning tools to meet core standards.

By working closely with the St. Louis School District, other educational opportunities have arisen. One such program, *Professional Partners*, is a challenging program which places teachers in special assignments with agency and business partners. Through the Professional Partners program, the Rivers Project has hosted several teachers to work with the ISOP staff to develop relevant curriculum. The teachers pilot test this curriculum in the classroom and within the "outdoor classroom" of the Riverlands Area.

The *Careers in Science* program is a collaborative program which was developed by Rivers Project ISOP staff and members of the Professional Partners. This summer internship for high school students is a semi-independent study program which allows students to get the "behind the scenes" look at science related careers. The program is sponsored by the St. Louis School Partnership Program with several contributing partners including the Rivers Project, the Missouri Botanical Garden, the St. Louis Zoo, Lewis and Clark Community College, Monsanto and others to provide hands-on learning opportunities. Several areas of curriculum concentration are covered for all students: native plant communities, land management decision making, public information, resource management and wildlife management.

The Rivers Project Office forged a partnership through a Memorandum of Agreement (MOA) with the USGS to advance their Water Resource Development Education Program. The program, a series of water related posters and curriculum has been pilot tested within the Rivers Project Area due to its diverse populations of urban, rural, and minority students. Teachers workshops prepare the instructors for the new curriculum and its activities. Hands-on water related activities can be introduced in the classroom or using the field site of Riverlands.

An MOA is also established between the Corps and the USFWS to support the ISOP through staff programming and exhibit development at the National Great Rivers Museum and other interpretive facilities. A USFWS interpreter works at the Rivers Project Office and cooperates with the Corps staff to provide interpretive services, assist with special events and help to develop educational materials.

The Rivers Project ISOP participates in developing curriculum for environmental and water resource issues for the Illinois State Board of Education, through its Education Service Centers. Students use kits, called M.A.S.H. kits (*Math and Science Hands-on*), which consist of an array of materials including books, videos, maps, and objects on an array of topics related to the river and the surrounding land. Students study the materials in the kit in the classroom prior to their field site visit for more hands-on study.

The Riverlands Environmental Demonstration Area is a field site test location for many educators and students involved in the Illinois Rivers Project, which is a nationwide data base of river study issues. Water quality sampling is conducted at Corps facilities, and studied by students. Their results are compared to nationwide water quality standards. Relevant water issues are studied by students through this program.

Rivers Project joined the St. Louis EdNet, a consortium of higher-education institutions, K-12 schools, educational television providers in the St. Louis region and cultural institutions to provide equal access to educational and cultural programming. This programming is conducted through the establishment of two-way, interactive telecommunications systems linking area educational and cultural institutions. The National Great Rivers Museum at the Melvin Price Locks and Dam is equipped with a Distance Learning Classroom to provide this type of educational networking.

Through the Rivers Project ISOP a variety of education programs are offered. *What is a Wetland?*, *Locks and Dam - Inland Waterway Navigation System*, *Prairies of the Past*, and *Eagles Along the Mississippi* are just a few of the interpretive/educational programs offered at Rivers Project. Education programming is supplemented with teacher workshops and training. *Project Wild*, *Project Aquatic*, and *Project Wet* are supplemental K-12 education programs emphasizing environmental education. These curriculums may be used to teach most major subject areas across the curriculum, but are particularly well-suited to science. The Rivers Project staff conduct training programs in these supplemental curriculums for educators, scout leaders, and interpretive staff members. One-day workshops are held at the Riverlands Environmental Learning Center, and using the Environmental Demonstration Area as a "living classroom".

Through the ISOP, the Rivers Project office incorporates public land issues into formalized educational structures, increases the availability of public lands for use as "outdoor classrooms" and fosters a sense of proprietorship towards public lands by the general public. The Rivers Project ISOP demonstrates the Corps' ability to improve math and science literacy and to enhance the visitors' experience and enjoyment by anticipating their needs and providing interpretive resources to meet those needs.

Watchable Wildlife Program

The Watchable Wildlife Program is a cooperative, nationwide effort to help meet a growing national interest in wildlife and the outdoors. The program provides opportunities for the public to enjoy wildlife on public and private lands; contribute to local economic development; promote learning about wildlife and habitat needs; and enhance active public support for resource conservation. The program's main feature is an established nationwide network of quality viewing areas complemented by a companion series of state wildlife viewing guides known as the Watchable Wildlife Series. An annual conference is held and a quarterly newsletter, *Nature Network*, is published. Universal brown signs with a white binocular logo direct the public to viewing locations.

The Corps supports and participates in the National Watchable Wildlife Program. The goals of the program fit well with the stewardship mission of the Corps. The Watchable Wildlife Program at the Rivers Project encompasses a wide range of activities, facilities, and means by which the public is accommodated. Current program components consist of environmental education programming, bulletin boards, brochures, special events, viewing platforms, access points, utilization of tri-lateration stations as viewing platforms, signage, and trails. Partnerships have and will continue as a means to carry this program forward. The Rivers Project currently cooperates with the USFWS, St. Louis Audubon, Great River Audubon, Webster Groves Nature Study Society, and local organizations such as the Boy Scouts. A viewing platform, constructed by volunteers, and supplied by the USFWS is located within the Riverlands Environmental Demonstration Area to enhance wildlife

viewing opportunities. Information kiosks and signage are also in place to enhance education and outreach.

A Watchable Wildlife bulletin and exhibit series is being developed in cooperation with the USFWS and other partners for use throughout the Rivers Project service area. This series serves as a learning tool on Riverland habitats and wildlife viewing opportunities.

Special events centered on the Watchable Wildlife initiative are conducted at the Riverlands and include the *Masters of the Sky* and *Wings of Spring* events, both focusing on the Mississippi Migration Corridor.

Opportunities to participate in others special events and to create new and improved events will continue to be identified and evaluated. Special events are an effective tool to promote the Watchable Wildlife program.

Future goals include establishment of other partnerships and continued use of volunteers. Through current and future collaborations better informational resources will be created, facilities expanded or added, exhibits developed, and services increased. Watchable Wildlife program functions will be expanded. Based on demand, opportunities to improve wildlife viewing in the Kaskaskia River basin will be examined. Partnerships and private cooperative agreements will be the primary means by which this will be accomplished.

The location of Rivers Project public lands, waters, and facilities in proximity to the St. Louis Metropolitan area and the number of high quality viewing sites for popular species result in high visitation to our areas. Resource managers acting as responsible stewards must carefully balance public demand with the carrying capacity of the resource. Current staff and facilities do not meet the needs of the visitors. In the urban setting of Pool 26 in particular, the number of visitors can overwhelm staff and facilities during peak migration periods and when unusual sitings of particular wildlife species occur. Partnerships and cooperative agreements will continue to be explored and used as a means to meet growing public demands and to utilize this program as a long term method to reduce overall operation and maintenance costs.

8.11. UPPER MISSISSIPPI RIVER AND ILLINOIS RIVER WATERWAY SYSTEM NAVIGATION STUDY

Mississippi River and Illinois Waterway Navigation Study

The Upper Mississippi River-Illinois Waterway System Navigation (Feasibility) Study addresses capital investment planning for the Upper Mississippi River-Illinois Waterway System (UMR-IWS) for the years 2000-2050. The study is to present recommendations for a safe, cost-efficient, environmentally sensitive waterway system for the first half of the 21st century.

This study will establish a prioritization schedule for evaluating sites where improvements are needed, leading to a "System" Congressional Authorization for construction while also maintaining the social and environmental qualities of the river system. The system navigation feasibility study is to be accomplished by executing the Initial Project Management Plan (IPMP). The IPMP outlines combining individual plans for Engineering, Economics, Environmental, and Public Involvement that are associated with improvements and additions to the system.

The following is a brief description of each of the plans:

The Engineering Plan

The Engineering Plan is based on four objectives:

- Baseline (maintaining the current conditions)
- Maintaining and enhancing current capacities
- Small-scale additions to capacity
- Large-scale additions to capacity

The Economic Plan

This plan analyzes the beneficial contributions to National Economic Development associated with the UMR-IWS. It will review the criteria of the cost savings of waterway transportation, the costs of delays at locks, recreational and fleeting analyses, the potential for accidents and hazardous spills, employment benefits and emissions and fuel use.

The Environmental Plan

This plan identifies environmental analyses and coordination. It addresses the project in terms of the environmental statutes, applicable executive orders, regulations, and other federal planning requirements with which the Corps must comply. It reviews environmental resources, threatened and endangered species, water quality, recreational resources, fisheries, mussels and other macro-invertebrates, waterfowl, aquatic and terrestrial macrophytes and historic properties on the UMR-IWS. It is to consider system-wide impacts of capacity increases, while also assessing in preliminary fashion potential construction effects of improvement projects.

The Public Involvement Plan

This plan identifies ways to educate and listen to the public. It also identifies ways to involve the public in the decision-making process.

The study area comprises all of the Illinois Waterway plus that segment of the Mississippi River from the confluence of the Illinois Waterway, (RM 218.0) to Upper St. Anthony Falls Lock in Minneapolis-St. Paul, Minnesota, (RM 854.0). the UMR-IWS study area contains 37 lock sites and over 360 terminals.

8.12.AVOID AND MINIMIZE PROGRAM

Overview

The term "Avoid and Minimize" (A&M) appears in the Council of Environmental Quality Guidelines for implementation of the National Environmental Policy Act of 1969. The Corps also uses the term in regulations in reference to mitigation. Mitigation includes: 1) avoiding the impact altogether by not taking a certain action or part of an action; 2) minimizing impacts by limiting the degree or magnitude of the action and its implementation; avoiding and minimizing environmental impacts is the first level of mitigation in planning and developing Corps projects". In the Draft Fish and Wildlife Coordination Report for the Second Lock-Melvin Price Locks and Dam, federal and state natural resource agencies recommended over seventy A&M items to be investigated. After conversations with Corps staff, a second draft of the Coordination Report was issued and the recommended items were reduced to around twenty. The Corps accepted the items and agreed to study them.

In October 1992, the St. Louis District issued DM No. 24, "Avoid and Minimize Measures". The document was developed from the commitment made in the Record of Decision (1988) attached to the Melvin Price Locks and Dam EIS for the second lock. St. Louis District set aside O&M

funds from 1989 to 1995 to implement some elements recommended and approved by the DM. Implementation of measures in this part of the program was released in the 1995 Progress Report. In fiscal year 1996, the Avoid and Minimize Program (A&M) was funded and the planned major implementation began. The planning and implementation team consists of staff from the St. Louis District, USFWS–Ecological Services Division, IDNR, River Industry Action Committee (RIAC), MDC and the USGS Long Term Resource Monitoring Station (LTRM/MDC) at Cape Girardeau, Missouri. Each group contributes staff time to plan and attend coordination meetings, collect data as a part of a monitoring program, and participate in studies at the river micro-model facility operated by the St. Louis District.

All the partners agree that minimum studies will be conducted, paper work kept to a minimum and only physical and biological monitoring of the measures will take place. Where navigation structures are to be constructed, planning, engineering, design and some physical modeling will be conducted. Both before, and after, physical and biological conditions are to be observed and monitored to test the effectiveness of the measure. The approval of the A&M DM allows the engineers and biologists to try “experiments” which may or may not work. A&M is an action program which uses common sense, field, laboratory and library research and then puts the measure on the ground. The team has the experience and by mixing the biological and engineering design arts, A&M projects make the river a more diverse ecosystem. For example, there is consensus that the river environment would be better if the tows could stay in the channel and not nose into the bank for mooring purposes when waiting to lock through. The river industry agreed that they could save fuel and locking time if they could do so. Thus, through the efforts of the A&M team, mooring buoys and bank anchor systems are being placed in the river that are acceptable from an environmental, industry and operational efficiency viewpoint.

Physical and biological monitoring of A&M measures is essential to the success of the program. For example, experimental chevron dikes placed in Pool 24 have been monitored for macro-invertebrates and effects. What has been observed is that the addition of rock in a sandy point bar environment has improved the aquatic environment considerably. Dredging of the point bar has decreased, as more water is forced into the thalweg, the rock has attracted aquatic life forms, a threaded backwater environment has been created, and the chevron configuration has performed as the engineering model had predicted.

Another initiative of the A&M program is to address the aquatic diversity of the remaining side channels in the open river between the Missouri and Ohio Rivers. In 1996 and 97, through the A&M program, closure structures on two side channels have been modified as per the design by the A&M partnership. Biological monitoring of the project’s effects is ongoing.

Two endangered species are of concern in the open river in the District. The Least tern, a sandbar nesting species and the Pallid sturgeon, a species of which little is known. The Pallid sturgeon is thought to be found around navigation training structures as are other similar fish species. Under the A&M program, a bullnose dike is being designed to hold dredge material to create an island with the correct elevation for the Least tern. In addition, training structures are being designed to isolate some of the existing sandbars from the mainland for the Least tern. A&M partners assist in the design of these structures and are monitoring nesting success. The Corps and the USFWS are working together to monitor the Pallid sturgeon and its’ relationship to navigation training structures. A number of Pallid sturgeon have been released from the Blind Pony Hatchery (MDC) and each was fitted with a transmitter.

Location surveys are being conducted in the river to determine the areas and habitats utilized by the fish.

Environmentally sound thalweg disposal of dredge material is yet another A&M effort. Dredging of a river crossing and placing the material in a downstream deep area is being experimented with as a feasible alternative to side casting. Prior to dredging, biological monitoring consisting of a hydro-acoustic survey and a mussel trail sweep through the deeper portion of the channel is done. From this information decisions are made as to whether to utilize the thalweg method of dredge material placement. Another channel sweep is conducted after the dredging is complete to determine the success of the method. After a high hydrograph occurs another channel sweep is done to find out if the material moved and if anything unusual occurred.

Through the cooperative partnerships and projects of the A&M program, smarter economic and ecologic management of the navigation project is being realized.

8.13. FACILITIES MAINTENANCE, REHABILITATION AND REPLACEMENT PLAN

The majority of the Rivers Project recreation facilities were constructed in the early 1960s and most have now exceeded their service life. Age of facilities, combined with increasing demands from visitors, have resulted in facility conditions in which routine maintenance is not sufficient. These facilities now require either major rehabilitation or complete replacement in order to remain operational. An extensive inventory and analysis has been conducted of all facilities and structures as part of the effort to develop a ten year maintenance, rehabilitation and replacement plan, known as the Backlogged Maintenance Plan. The plan recommends necessary maintenance, rehabilitation and replacement items for the next ten years. Analyzing conditions of existing facilities and evaluating public use trends are done in an effort to reduce project operation and maintenance costs and better serve project visitors. The backlogged maintenance plan is periodically being re-prioritized to realistically look at ways to achieve a basic level of service required to keep facilities operating at a safe and functional standard.